

University of Groningen

Biological Foundations of Global Ethics and Law

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Published in:
Archives for Philosophy of Law and Social Philosophy

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Final author's version (accepted by publisher, after peer review)

Publication date:
2014

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):
Gommer, H. (2014). Biological Foundations of Global Ethics and Law. *Archives for Philosophy of Law and Social Philosophy*, 100(2), 151-175.

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The Biological Foundations of Global Ethics and law

Abstract

This article attempts to translate philosophical notions into biological terms in order to transform dualistic thinking into monistic thinking. What if ethics finds its cause in physical, molecular processes? In *Ruling Passions* Simon Blackburn acknowledges the biological fact that we are social animals and that we need to coordinate our efforts. Therein lies an opportunity for a fruitful discussion about the biological foundation of ethics. Although Blackburn thinks there cannot be a grand unifying theory or a single driving force that underlies ethics, the spreading of our genes may well be the key. As cooperation is the means by which humans have been successfully spreading their genes, ethics in some sense can be regarded as a biological or even a physical force. Recognition of ethics as such a force can help overcome false dichotomies in contemporary ethics and law. Four natural laws of global ethics and law can be formulated on the basis of factual biological mechanisms – natural laws that have remarkable equivalents in religion and contemporary law.

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The Biological Foundations of Global Ethics and Law

Introduction

A biological theory of ethics and law can feel threatening; exploring the biological foundations of ethics can cause virtues to lose their enchantment. While Simon Blackburn acknowledges that such a theory may be true, regardless of whether we like it, he insists that the natural world is revealed by the senses and that neither ‘they nor the sciences seem to be good detectors of obligations, duties, or the order of value of things. As everyone knows, nature is heartless’.¹ That is why, according to Blackburn, for the naturalist that refuses any appeal to a supernatural order the problem is one of ‘placing ethics within the disenchanted, non-ethical order’.² What is

¹ Simon Blackburn, *Ruling Passions*, Oxford: Oxford University Press 1998, 46-48.

² Blackburn (note 1), 49

ethics? It is defined by its practical role. It guides our actions and puts pressure on our choices. Ethics is shown in how we behave or say how we ought to behave.³

But what if nature is not ‘heartless’, not ‘disenchanted’? What if nature not only tells us *that* we behave in a certain way but also tells us, directly or indirectly, how we *ought to* behave? What if nature tells us whom to punish or to admire? Blackburn asserts there is consensus amongst philosophers that people recognize things go better when they cooperate.⁴ But if nature is not responsible for our urge to cooperate, then what is?⁵ To prescribe that people ought to cooperate, some philosophers think it necessary to introduce a social contract,⁶ others invoke reason,⁷ some sociologists will refer to society,⁸ believers rely on on a deity and economists put their faith in rationality.⁹ Blackburn considers it to be impossible to find a biological source of ethics,¹⁰ but what if he is wrong and we actually could replace these constructs or black boxes with a simple, *ultimate* driver that can *explain* and *justify* as much and has the potential to unify contemporary theories of ethics? What if a universal driver can be found in nature itself? In this article I will argue that our norms can be derived from biological facts. I will not do that by stating that biological facts can become *equal* to norms; they cannot. I however will use evolutionary psychological theories and facts of cooperation to transform biological *mechanisms* into normative *thinking*. For people will *value* an act as good when it makes them *feel* happy, which is an effect of the improvement of the chances of reproduction. It is my goal to draw the outlines of an ultimate evolutionary psychological justification of proximate ethical reasoning, so that philosophers and scientists in future can build on the ethics project using similar presuppositions. However, from genes to ethics is a long walk. I cannot possibly fill in all the details within one article. Nonetheless, not starting this enterprise, believing it is impossible, will not help us either. As Blackburn acknowledges the biological fact that we are social animals and that we need to

³ Blackburn (note 1), 1

⁴ Blackburn (note 1), 185

⁵ Louise Barrett, Robin Dunbar and John Lycett, *Human Evolutionary Psychology*, Houndmills: Palgrave 1998, 68

⁶ E.g. Thomas Hobbes, *Leviathan*, Oxford: Oxford University Press 1996 (orig. 1651)

⁷ E.g. Immanuel Kant, *Critique of Pure Reason*, London: Macmillan 1963 (orig. 1781)

⁸ E.g. Emile Durkheim, *Les Jugements de Valeur et les Jugements de Réalité*, 1911

⁹ David D. Friedman, *Law's Order*, Princeton: Princeton University Press 2000, 13

¹⁰ Blackburn (note 1), 153

coordinate our efforts,¹¹ but fails to test ethics in physical processes I will engage in a discussion with him because I think our disagreement can be helpful.

I will start by discussing some dichotomies in contemporary ethics. Then I will encounter some frequently raised objections against inferring the ultimate drives of people from the fact that only genes that spread successfully will not vanish. And I will conclude with the consequence this theory has for ethics in a global society.

Abandoning dualistic visions and black boxes

The dualistic vision always has need for some kind of black box *out there*, and such a construct is for that very reason outside the scope of science, which tries to comprehend our world without metaphysical explanations. If we accept that we can have no knowledge of values that exist in a *metaphysical* world, because all knowledge comes to us through our brain, which is the biological point of view, the most logical conclusion is that values as we know them find their cause in nature.¹² Blackburn states that ‘we do not expect laws of ethics to play a role in treatises of physics’,¹³ but what if ethics – what we think we ought to do – finds its cause and justification in physical, molecular processes and also has enormous consequences for how these processes evolve? Is then ethics not also to be studied by physical methods?

Abandoning the dualistic vision and embracing the monistic vision unfolds new insights. The present-day study of ethics then seems to abound with false dichotomies. As I argued earlier, acknowledging that ethics is founded in physical properties of genes that generate humans within a varying environment probably will help to overcome such dichotomies as is-ought, explanation-justification, deontology-consequentialism, altruism-egoism, in-group-out-group, reductionism-holism, and so on.¹⁴

In this article I will attempt to translate philosophical notions into biological terms in order to transform the habitual dualistic thought processes of normative scholars into the monistic mental approach customary amongst scientists. Nowadays, there is

¹¹ Blackburn (note 1), 308

¹² Hendrik Gommer, *A biological theory of law. Natural law revisited*, Seattle: Createspace 2011, 31

¹³ Blackburn (note 1), 80

¹⁴ Hendrik Gommer, From the ‘is’ to the ‘ought’: a biological theory, *ARSP* 2010, 96(3), 449-468; Hendrik Gommer, The molecular concept of law, *Utrecht Law Review*, Vol. 7, no. 2, 2011; Gommer (note 12)

enough empirical material to construct a biological foundation for ethics, so that we no longer need black boxes to fill an unexplainable gap. If, as I will argue, this biological foundation is universal amongst humans, it can function as the foundation of global ethics as well. I agree with Blackburn that we can find the foundations of ethics in ourselves and have no need of an external force. This makes a discussion of Blackburn's reasoning from a biological perspective fruitful. Blackburn acknowledges the biological fact that we are social animals and that we need to coordinate our efforts, but he fails to test ethics in physical processes.¹⁵ Inevitably, Blackburn concludes that people can know what is right and what is bad simply because that is the commitment they received from the past. 'Across large tracts of human affairs, we know what to think. We can be fairly confident about the standards we use'.¹⁶ I find this conclusion dissatisfying. This reasoning reminds me of Baron Münchhausen, who allegedly managed to pull himself (and his horse) out of a swamp by his own hair. The *ultimate* foundation of ethics remains in the dark. In this article I will search for ultimate justifications. The proximate justification for not stealing may be that such behavior destabilizes society, but why is destabilizing society bad? Why have many people through the ages and in all parts of the world felt so strongly that stealing is not good? Stripped to its essence, their belief rests on the fact that destabilization threatens not only the group members but the underlying genes as well. Somehow this knowledge permeates our commitments.

At this point some clarification is needed on the role of genes in the evolutionary process. The idea of the gene as a blueprint has been abandoned in biology for some time now. Merely, the gene contains a code that drives a process that takes place within an influencing environment. Although oaks, for example, have the same genes that subscribe the process of growth, the actual shape of each oak differs because of the influence of (micro or macro) environmental influences. The oaks, as well as human beings, can be considered processes of life in stead of things.¹⁷ Information in and properties of genes *steer* the process, but do not *determine* it. Having said this, oaks can be recognized as oaks because they have similar drives. Because oaks, as well as humans, have genes that steer them, they will – like all life forms – be stable, replicate, need nutrients, reciprocate and spread

¹⁵ Blackburn (note 1), 308

¹⁶ Blackburn (note 1), 306

¹⁷ John Dupré, *Processes of Life*, Oxford: Oxford University Press 2012

their genes. Their ultimate *drive* is to spread their genes for those life forms or processes that did not, vanished. Every living creature will find its own way to spread its genes, very much influenced by its environment, but our genes have been selected by evolution to cause traits that make us successful in doing that. Whereas oaks are successful by being strong, stable and by producing lots of acorns, humans are especially evolutionary successful by being social and cooperative and by caring for their few children.

Explanation and justification

Many philosophers and biologists, as Blackburn does too, acknowledge biology can explain our need for cooperation. Biology does not make the claim that we ought to spread our genes, we simply do. However, can the biological urge to spread genes also be used to justify our deeds? How could we translate the physical properties of genes (e.g. stability, replication, need for food) into normative expressions? In effect, this translation takes place when we *feel* good if the circumstances to spread our genes are optimal. Accordingly, we try to extort such circumstances by acting in a certain way or by prescribing others how to behave. For example, it *feels* good to cooperate because cooperation will enhance the spreading of the genes of the group members, therefore people will *reason* that cooperation *is* good, that we *ought to* cooperate. When we value events and situations, we express ourselves in terms of what is 'good', 'bad', 'obligatory', 'right' or 'justifiable'.¹⁸ These words are the language we use to tell others why they must behave in a certain way. According to expressivism, we use values to express our states of mind; we do not merely describe our mindset. However, normative expressions can be translated in biological terms. When I say drinking water *is* good, from a biological point of view I am actually saying that I *feel* drinking water is good because my body needs it. Evolution selected people that feel bad when they are thirsty for too long. People will feel a very strong urge to find water and will feel happy when they can drink it eventually. Then people will exclaim: 'This is good! Drinking water is good because it helps me to survive (and procreate).' We value things by and for their effect on our well-being, that is our survival, our health, our resources and our possibilities to spread our

¹⁸ Blackburn (note 1), 49

genes. In other words, our valuations have a biological purpose: they facilitate the spreading of our genes, and only valuations that do so successfully will endure. More, valuations are, like feelings, a biopsychological phenomenon. Biology makes us feel we ought to act in a way that facilitates the spreading of our genes. As an effect we, as biological beings, reason with help of our brain we ought to act in that way. As Trivers states, many people and philosophers deny this truth to themselves, exactly because self-deception is an evolutionary successful trait.¹⁹ By convincing ourselves spreading our genes is not our ultimate biological goal, we will appear more civilized than others and will get a good reputation. Still, our actions, thoughts and values are shot through with those biological drives.

As Damasio shows, our mind is part of our body and cannot be separated from it.²⁰ We always have background feelings by which we are aware of the state our body is in. The state of our body affects our brain, and therefore our thoughts, through the brainstem and hormones. In addition, the limbic system has a much stronger influence on the cortex than vice versa.²¹ Our cognitive skills have evolved around older evolutionary parts of the brain and seem to be better versions of the same general capacities.²² They are 'just' highly sophisticated feed back systems that improve our reactions and behavior. Whereas a chimpanzee will get bezirk when another takes its food,²³ thanks to our neocortex we can make clear beforehand to other people that we do not like our food to be 'stolen' and that we will punish them if they do. We thus prevent our food being taken.

What we experience as the 'self' is actually a product of biological information that emanates from our entire body.²⁴ Our 'thinking' is the effect of biological processes that are all directed towards survival and reproduction. It can activate the production of chemicals that in turn activate, for instance, our immune system.²⁵ In addition, sex hormones that are produced in our body have a powerful impact on our brain and thus our mind. Emotions that are triggered by a physical event give us

¹⁹ Robert Trivers, *The Folly of Fools*, New York: Basic Books 2011, 3

²⁰ Antonio R. Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain*, New York: Putnam 1994

²¹ Katarina Gospic et al., Limbic Justice, *PLOS Biology* 2011; Joseph LeDoux, *The Emotional Brain*, New York: Simon and Schuster 1998

²² Barrett, Dunbar and Lycett (note 5), 320

²³ Keith Jensen, Josep Call and Michael Tomasello, Chimpanzees Are Vengeful but Not Spiteful, 2007 *PNAS*, 13046-13050

²⁴ Damasio (note 20); Barrett, Dunbar and Lycett (note 5), 289

²⁵ Candace B. Pert, *Molecules of Emotion*, New York: Scribner 1997

feelings that can lead to mental images. Thoughts can go in all directions and can be anywhere. They seem to be of a totally different order than our brain cells, but is this really true? Do not our thoughts follow patterns that are very similar to the patterns in our brain? As I speculated earlier, they would seem to do so. The fractal structure of multi-branched pyramidal neurons permeates our associative unconscious thoughts.²⁶ Our physical brain structure seems to be mirrored in our thoughts, which then are probably physical as well. The separation of body and mind must be considered a false dualism. As a consequence, the mind is nothing more and nothing less than the effect of biological processes and structures within our mind, brought into existence by evolution that favours systems that make underlying genes to spread.

Cause-centered or norm-centered?

This seems to be a cause-centered approach. We consider drinking water good because water helps us to spread our genes. If we did not value drinking water evolution would simply 'sweep us away'.²⁷ However, the peculiar thing is that this approach is also norm-centered. All of us *must* drink water in order to be able to spread our genes. As all of our ancestors must have learned (they would not be our ancestors if they had not), water is indispensable to survival. In this way, evolution determines our mindset, our values. We have learnt how to think in accordance with the principles of evolution. To hold a value is 'to have a relatively fixed attitude to some aspect of things' set to feel pain when concerns are not met.²⁸ In biological terms, values are principles that have evolved during evolution and that function as stable guides that help us to make choices in new, unknown situations. Drinking water is good, so if we encounter an unknown pool of water and we are thirsty, we *must* drink from it for if we do not we will feel pain physically and mentally. The explanation becomes the justification. If we do not drink water, we should have little hope of spreading our genes. Ergo, 'thou shalt drink water'. Or as Deuteronomy 8:1 instructs us: 'You must carefully *observe* everything that I command you this day so *that* you may *live* and *increase* and may enter and *occupy* the land.' Even religion

²⁶ Gommer (note 12), 59-62

²⁷ Blackburn (note 1), 56

²⁸ Blackburn (note 1), 68

acknowledges that our norms are justified by our ultimate drive to fill the earth. The essential thing for humans is to 'be fruitful and increase, fill the earth and subdue it'.²⁹ *Culture, religion, law and ethics thus can be considered the products of our minds that try to create the right circumstances for procreation in an ever changing environment.* Thus, also religious norms will essentially be directed in line with the quintessential drive of any living organism to reproduce, increase and fill the earth with its genes.

From this perspective, values are (just) another way to communicate about our environment. Values help us telling others and ourselves what is a good way to life, in order to be evolutionary successful. If we would only observe facts as they are we would not know how to act in order to spread our genes successfully. Evolution thus selected those creatures that knew how to act. In a way, evolution uses hormones, emotions, feelings, thoughts and values to show us the 'right' direction. An infant will project desires on almost anything that moves.³⁰ Even adults interpret moving triangles and a circle as the circle that was bullying the small triangle, which was saved by the large triangle.³¹ However chilling the effect of this observation may be, the very sensations of disenchantment and fear are also given to us by nature itself. We are afraid to be left alone in the dark, not knowing what to do or to hold on to. In times of crisis we need a shoulder to lean on. We depend on the help of others and find comfort in enchantments. Still, there is nothing to be afraid of. The secret that lies within us will not take away our love, our empathy, our altruism, our need for world peace, or our awe of the amazing universe, nor will it reduce the richness of experience, knowledge, fantasy or science, as Rose, Kamin and Lewontin suppose.³² They fear the idea that brains 'are determinate biological objects whose properties produce the behaviors we observe and the states of thought or intention we infer from that behavior'. However, the genes that contain the necessary codes to create a brain cannot develop into an ethical being without resources from its environment. They are not blueprints, but merely codes that steer processes. They cannot even produce a brain without interacting with other genes. Genes therefore cannot *determine* our future; they will merely *drive* us in certain directions. The genes of an

²⁹ Genesis 1: 28

³⁰ Simon Baron-Cohen, *Mindblindness: an Essay on Autism and Theory of Mind*, Cambridge: MIT Press 1995.

³¹ Fritz Heider and Mary-Ann Simmel, An experimental study of apparent behaviour, *American Journal of Psychology* 1944, 243-259.

³² Steven Rose, Leon J. Kamin and Richard Lewontin, *Not in Our Genes*, London: Penguin 1984

oak make it form branches, whereas the environment will influence the moment and place of formation.

Deontology and consequentialism

There seems to be another paradox here. Genes drive our action into the direction of their replication and spreading, whereas only genes that replicate and spread are evolutionary successful. Are we considering our actions 'good' because our drives tell us so, or are they 'good' because this will cause genes to spread. This paradox can be translated as the ethical discord between deontology and consequentialism. Although it may seem that a choice between these two lines of thought is imperative or indeed inevitable, they are in fact two sides of a coin. We can state that there are principles that can be considered so essential as to be beyond debate and we must therefore act in accordance with them.³³ This is the deontological way of thinking. 'Boundaries to our actions are justified because they enable us to get along, or avoid conflict, or in other words promote the social good or help avoid social distress'.³⁴ Deontologists will refuse to do things that contravene their principles. There are 'private "no-go areas" that are borrowed from the public function of ethics'.³⁵ That is, deontologists' emotions, their intuition, will tell them to act otherwise. To put it differently, the deontological point of view will emphasize the driving force of our genes in our actions. Consequentialists, on the other hand, evaluate what is good by estimating the consequences of their actions. They appreciate the social function of ethics; moral attitudes must have some kind of function and without values human life will go badly.³⁶ In other words, the consequentialistic point of view will underline that we must act in a certain way to prevent our genes to become extinct. However, in fact our genes drive us and thus we feel we must act in a way to prevent extinction. I will illustrate this by applying this idea on the issue of cooperation.

From a biological point of view, values have evolved in the evolutionary (genetic and cultural) past and have been internalized. Game theory shows that a tit-for-tat strategy is an evolutionary stable strategy.³⁷ People who cooperate, and only

³³ Blackburn (note 1), 25

³⁴ Blackburn (note 1), 37

³⁵ Blackburn (note 1), 38

³⁶ Blackburn (note 1), 38-39, 41

³⁷ Robert Axelrod, *The evolution of cooperation*, Basic Books: New York 1984

desist from doing so if others do too, will gain most. In evolution gaining more means spreading your genes faster. Thus evolution will select on this strategy in groups. Group members that help each other harvesting will have more food. People that expect others to cooperate will have more offspring and will eventually supersede non-cooperators. In fact, the development of our enormous brain probably made us champions of indirect reciprocity and long-term cooperation. Brains are extremely expensive to grow and maintain.³⁸ They are heavy, make us vulnerable, use lots of energy, make birth painful and infants helpless, so that a high level of parental investment (which also requires males to invest) in their offspring is needed.³⁹ However, the benefit of having an enormous neocortex is that humans have the ability to solve complex social problems.⁴⁰ Humans have become masters of social interaction. Humans as social animals are predisposed to trusting each other and to only retaliate if others take a free ride. In this way, organisms using a tit-for-tat strategy can sustain cooperative interactions for a long time. As Hume said, 'It will be for my interest to leave another in the possession of his goods, provided he will act in the same manner with regard to me'.⁴¹ Blackburn acknowledges that natural growth was founded on the expectation of benefit in return.⁴² Alexander speaks of indirect reciprocity: a group can only function as a group if people gain by investing in it.⁴³ Morals, values, duties and laws will help promote this attitude among group members. This implies that deontology and consequentialism are not essentially dissimilar; rather, they complement each other. Where deontology emphasizes biological predispositions that drive behavior, consequentialism anticipates the effect on the group. For either deliberation to be labeled 'right' or 'good', the outcome should be that our genes spread successfully. Both ways of thinking justify our actions in the light of our genes prospering. A person, let us call him Johnny – like Blackburn does -, is altruistic when he brings his thirsty comrade water.⁴⁴ The result is that Johnny will feel 'good' (deontological) and an important group member will survive (consequentialistic).

³⁸ Leslie C. Aiello and Peter Wheeler, The expensive tissue hypothesis: the brain and the digestive system in human evolution, *Current Anthropology* 1995, 199-221

³⁹ Catherine A. Key, The evolution of human life history, *World Archaeology* 2000, 329-350

⁴⁰ Richard W. Byrne and Andrew Whiten, *Machiavellian Intelligence*, Oxford: Oxford University Press 1988; Dunbar 1996

⁴¹ David Hume, *A Treatise of Human Nature* 1739, III.ii.2

⁴² Blackburn (note 1), 176

⁴³ Richard A. Alexander, *The Biology of Moral Systems*, New York: Aldine de Gruyter 1987

⁴⁴ Blackburn (note 1), 75-76

The power of reputation

The person that saves his comrade seems to act altruistically, whereas he is actually acting according to his internal drives. Belonging to a group will enhance his evolutionary success and thus he will feel happy if he can help his fellows. Although it seems as if group norms are of a higher source, we are simply fooling ourselves to enhance cooperation (Trivers 2011, 280).⁴⁵ People are driven by their feelings to do things that have good consequences. When Johnny is reported to have done something good, the informant shows his admiration.⁴⁶ Johnny acted to the benefit of the admirer (brought him water). The admirer not only expresses his state of mind (expressivism), he also relates implicitly what it is Johnny should do (bring water). If Johnny brings water to the admirer, this ultimately will improve the admirer's chances of spreading his genes, and probably also Johnny's genes because of his admired state within the group. In fact, when the informant is female, a mating opportunity may well present itself. Men with a high social status have more mating opportunities.⁴⁷ By acknowledging that 'It is good to bring my admirer water!', Johnny becomes a 'believer'. Adopting a religious belief amounts to much the same thing. If we acknowledge that 'Jesus is the way!', we will earn the respect of our fellow Christian group members and we will have all the benefits of belonging to that strong and successful group. Moreover, if what they say is true, we will have a chance to reach heaven where we will live forever, and to live forever is exactly what genes are programmed to do.

Like Johnny, we 'wonder whether our actions are really justifiable, as it were in the eyes of God': what actions are obligatory?⁴⁸ In essence, we ask ourselves how to behave *in the eyes of our fellow group members* that tell us what God asks of us. Trying to fulfill group demands we do our utmost to believe in God, a transcendental entity that holds all ethical propositions. The propositions of the group seem to become non-natural, distinct from psychology and nature. According to Kant, virtue is

⁴⁵ Trivers (note 19), 280

⁴⁶ Blackburn (note 1), 76

⁴⁷ Daniel R. Vining, Social versus reproductive success, *Behavioral and Brain Sciences* 1986, 167-216

⁴⁸ Blackburn (note 1), 85

visible in 'the will's firm resolution to conform with every duty',⁴⁹ where duty is the fundamental concept.⁵⁰ Thus, people live up to the expectations of the group and the group will flourish. According to G.E. Moore, we can know the non-natural good through our intuition,⁵¹ and in this way the circle is closed. Our intuition tells us to endorse the beliefs of the group, and the group believes God tells them how to behave. Thus, we believe in God and subsequently we can know how to behave through our intuition. In fact, God turns out to be a means to empower the demands of the group to which we want to belong, because belonging has so many benefits. The group gives us shelter, protection and resources. Our intuitions, that is our unconscious drives, tell us that joining a group is the best we, as social animals, can do. As individuals rely on cooperation and prefer cooperation that is permanent, they are likely to invest readily in the group.⁵² A group member is more likely to tell others where the best fishing grounds are in small villages than in large villages.⁵³ Such a group member will boost his reputation as an altruist and will in the long run benefit from it.

Johnny grows up – he is now John – and discovers that drinking water is good but that drinking orange juice is better. Being a 'good' citizen, John shares his discovery with his admirer, yet this time the admirer is shocked. The group has always thought water is best and it has projected this value on God: God says drinking water is best. The ancient scriptures confirm it. A dissenting opinion can breach group coherence. Not only does John pose a threat to group coherence, he also (and at the same time) implicitly disputes the authority of God. To maintain group coherence, John has to renounce his discovery or suffer the consequences (expulsion).⁵⁴ People will no longer admire him and he will feel bad. Being cast out into the dark and unknown implies certain death. This most certainly does not favor his genes. As John has internalized the voices of others and he cannot defend his

⁴⁹ Immanuel Kant, *The Metaphysics of Morals*, Cambridge: Cambridge University Press 1996 (orig. 1797), 164

⁵⁰ Blackburn (note 1), 32

⁵¹ George.E. Moore, *Principia Ethica*, Dover Publications: New York 1903, 9, 77

⁵² Kate Douglas, Playing fair, *New Scientist* 2001, vol. 169, 38-42; Kenneth Binmore, *Game Theory and the Social Contract*, Vol.1: Playing Fair, Cambridge: MIT Press 1994; Barrett, Dunbar and Lycett (note 5), 69

⁵³ Craig T. Palmer, Kin selection, reciprocal altruism and information sharing among marine lobsters, *Ethology and Sociobiology* 1991, 221-235

⁵⁴ Also see the Solomon Asch experiments: Solomon E. Asch,., Studies of independence and conformity: A minority of one against a unanimous majority. *Psychological Monographs* 1956, 1-70

destabilizing actions, he probably will feel guilt.⁵⁵ In other words, his feelings – that is ultimately his genes - tell him he has to live by the norms of his group.

Nevertheless, 'we recognize the possibility of correctly dissenting from the herd'.⁵⁶ However, this is not because the dissenting individual knows the absolute truth, but because sometimes an individual knows what is best for himself and the group. In John's case a religious scholar may interpret the holy text in such a way that orange juice is in fact water with some food (nutrients) added. From that point on, the group can safely regard orange juice as best, without renouncing God's values, without endangering group coherence. At the same time, dissenting from the herd is tricky. While dissension may pay off handsomely (eternal fame and lots of reproductive chances), death is a very real risk (and with it genetic extinction). Conformity will be the rule, dissension the exception.

Altruism and egoism

The group gives humans, as social animals, vital benefits. It will provide protection, shelter, resources, special products, help in times of need, and so on. Belonging to a group is for human individuals an excellent strategy to spread their genes. But group membership does not come free. By the law of reciprocation all participants have to end with a net benefit.⁵⁷ We have to invest in the group, just like other members do, and thus invest indirectly in ourselves. However, if people want to belong to a group because their main drive is to spread their genes, does this not mean that 'underneath the surface lies the ruthless pursuit of self-interest', as Blackburn suggests?⁵⁸ Need we not try to teach generosity and altruism to keep our self-centered nature under control?

However, this line of thought implies that our genes make us self-centered, which is not actually true. We are born ultra-social animals that like to cooperate and love the company of other people.⁵⁹ This makes us feel to love helping other people. Labeling human action in an ethical debate as 'egoistic' or 'altruistic' is unfortunate,

⁵⁵ Blackburn (note 1), 17

⁵⁶ Blackburn (note 1), 74

⁵⁷ Robert Trivers, The evolution of reciprocal altruism, *Quarterly Review of Biology* 1971, 35-57

⁵⁸ Blackburn (note 1), 134

⁵⁹ Peter J. Richerson and Robert Boyd, The evolution of human ultra-sociality, in: I. Eibl-Eibesfeldt and F. Salter (eds), *Indoctrinability, Ideology and Warfare: Evolutionary Perspectives*, New York: Berghahn 1998, 71-95

because these are not objective terms. They merely value our behavior in relation to the group. When are we being altruistic or egoistic? If we are pure altruists we are anybody's fool, yet if we act as pure egoists we are no less foolish. The underlying conflict is the problem of reciprocity. In order to spread our genes, we have to invest in a group, but at the same time we have to get something back. As Richard Alexander puts it, social investment may yield a long-term benefit. 'Moral systems are the means to make sure that these investments are not in vain'.⁶⁰ To keep this equilibrium in balance people use terms like altruism and egoism. In the context of valuing groupmembers these terms will do. However, in the debate of ultimate foundations of ethics these labels are highly confusing. Am I really being altruistic when the prospect of the survival of whales gives me pleasure, although I might expect to be dead before the survival of whales has been secured, as Blackburn suggests?⁶¹ Probably not, for it is not me as an individual that is the center of my world, but it is my genes. Survival of whales is good for my genes, because my grandchildren (in whom my genes live on) will (in some way) benefit from that survival. Pleasure is a feeling that is the result of eons of evolution. It tells me when my behavior favors the spreading my genes. The survival of whales reminds me of preserved nature, of a healthy climate and of a bright future. The feeling of pleasure that is caused by observing a group of whales swimming about freely with their young is related to the pleasure of finding a mate and have sex in fortunate circumstances. Under such conditions my genes will spread best. At least that is what evolution tells me after a million years of experience. This evolutionary experience tells me to campaign for the survival of whales. Campaigning makes me feel good, because ultimately it will enhance the spreading of my genes. On top of that, the campaigning team will undoubtedly be very coherent; its membership will value cooperation and is likely to include potential mates. Thus my altruistic behavior will give me a good reputation and will favour the genes that make this kind of behavior possible. Essentially, it is all about investments that will be paid back some time.

For the same reasons it gives me pleasure to work for my neighbor,⁶² or to share goods within my group (Gommer 2011c).⁶³ I feel compassion with my fellow

⁶⁰ Alexander (note 43), 111

⁶¹ Blackburn (note 1), 137

⁶² Blackburn (note 1), 142

⁶³ Hendrik Gommer, Thou Shalt Not Share? Biological Notions in Intellectual Property Law, *Berichten Industriële Eigendom* 2011, 160-166

group members, because this will boost concern and cooperation. Sharing and showing compassion are labeled as virtues. You shall share and you shall show compassion (prescription), in order to spread your genes (justification) because sharing and showing compassion will enhance cooperation (explanation). We pity our friends, not only because we are more fearful for ourselves when we see friends in distress,⁶⁴ but also because we will feel compassion with useful companions.

As every biologist knows, genes are neither egoistic nor altruistic. They just react to their environment. If the environment is beneficial, they will find enough nutrients to multiply. If the environment is detrimental, they will vanish. Genes generate (i.e. have the codes for) organisms. Only genes that are part of an organism that finds enough nutrients will spread. For that reason, each organism will have the urge to search for food. Organisms that need groups to find food, as humans do, have the urge to cooperate. They have the urge to invest in the group, but at the same time they expect their investment to yield food. Cooperation has become a part of their existence, a second nature. Group members appreciate it when others invest in the group and will admire them as altruists and altruistically share their food with them. Those who do not invest are considered selfish and will be excluded from sharing food. We do not join groups because of a conscious cost-benefit analysis; evolution has made that analysis for us. In the past, say, one million years, our ancestors were better off by cooperating within groups. This cooperation protected them effectively against other humanoids that did not or not sufficiently cooperate. Cooperation has made our race successful in spreading over the world. Evolution has favored cooperators and a cooperative attitude has become a human predisposition. Humans have become social animals or even ultra-social animals, as Richerson and Boyd suggest.⁶⁵ Cooperation gives humans so many benefits that the 'altruistic' capability, that is the capability to help others and feel their pain, sometimes demonstrated by individuals cannot be distinguished from 'true' altruism.

A biological fallacy?

⁶⁴ Blackburn (note 1), 144; Joseph Butler, *Fifteen Sermons Preached at the Rolls Chapel*, London: Bell & Sons 1953, 85

⁶⁵ Richerson and Boyd (note 59)

Blackburn perceives a fallacy here.⁶⁶ He accepts that genes that cause people to act in a way that is good for replication in a certain environment, plausibly explains the evolution of that characteristic. However, if one states that 'human beings are to be interpreted as consciously or unconsciously pursuing their genetic success' one is committing the biological fallacy. 'Nobody would be stupid enough to commit this fallacy outright', inferring the ultimate drives of people 'from the fact that his or her genes have proved good at replicating over time', he says. Genes may be relevant to a skill, but they do not determine, independently of the environment what we do. The latter is true, of course. However, Blackburn seems to be too quickly in dismissing the idea that our actions can very often be explained by evolutionary processes. Let alone the idea that we justify our deeds in the light of the driving force of evolution which is the spreading of genes.

Blackburn gives three examples in an attempt to refute this inferring of our behavior from the characteristics of genes. First, he mentions the bystander effect, second he refers to homosexuality and third he states that many people choose not to reproduce. As I see it, Blackburn labels specific behavior non-adaptive on the basis of a simplistic analysis.⁶⁷ I will discuss these three examples because they are used more often in attempts to refute evolutionary explanations of human motives. And I will add another puzzling behavior: infanticide. The derivation of behavior and norms is not as simple as it seems. Some norms seem to be counterproductive, whereas they prove to be very productive on second sight.

The bystander effect

The paradox of the bystander effect is related to the fact that one must infer from the drive to spread our genes that we will feel that it is good to help our friends. For helping friends has proved a successful strategy for our genes to spread.⁶⁸ However, if it were good for our reputation and therefore for our own good to help friends, why then do people often not go to the aid of others when there are other people about to be impressed?⁶⁹ This effect can easily be explained. Firstly, people unconsciously

⁶⁶ Blackburn (note 1), 147-148

⁶⁷ Barrett, Dunbar and Lycett (note 1), 43

⁶⁸ Blackburn (note 1), 149

⁶⁹ Blackburn (note 1), 149; Bibb Latané and John M. Darley, Group inhibition of bystander intervention in Emergencies, *Journal of Personality and Social Psychology* 1968, 215-221

will try to avoid a risk by hoping that someone else will take it. Secondly, people may feel unsure if the situation is really serious as so many do not do anything. Thirdly, if we are the only ones there, we will help, because failure will go unnoticed and success can be advertized. Watched by others bystanders, we might make a fool of ourselves if we were to fail or if the emergency proved false.⁷⁰ Conforming to the group that will survive by doing nothing feels as important as saving a group member. The norm is not only to help a groupmember in need, but also to conform to the group in order to get the approval of other groupmembers.

Homosexuality

The second 'more obvious' example Blackburn gives is the evolutionary psychological idea that homosexuality is a way of helping your brothers and sisters to raise more children.⁷¹ Homosexuality may be a potentially useful trait when it comes to assisting genetic relatives, but it is – according to Blackburn - 'of course crazy' to take this as a remark about human psychology. However, Blackburn fails to show why an evolutionary mechanism cannot have psychological consequences. The idea maybe not as crazy as Blackburn suggests. As it turns out, many homosexual men have older brothers.⁷² Two or more boys in one family will compete and might even kill each other. The strongest will survive and will spread its genes. But if the second and the third brothers are homosexual they do not need to compete. This could be a successful strategy for all concerned if the heterosexual brother can produce more offspring because of the aid given him by his gay brothers. The homosexual brothers are likely to experience a sense of gratification; they can fulfill their need to nurture (a feminine trait) while still being able to have meaningful relationships without having to compete with heterosexual group members for mating partners. Psychology follows the underlying evolutionary strategy. Interestingly, most people do not dislike homosexuals as long as they do not 'practice' their preference. This practice may fill heterosexuals with disgust when they imagining what it would be like. In fact, homophobia seems to be a psychological response of males that have a sexual

⁷⁰ Bibb Latané and Judith Rodin, A lady in distress: Inhibiting effects of friends and strangers on bystander intervention. *Journal of Experimental Social Psychology* 1969, 189-202

⁷¹ Blackburn (note 1), 149; Rose, Kamin and Lewontin (note 32); Robert L. Trivers, *Social Evolution*, Menlo Park: Benjamin/Cummings 1985

⁷² Ray Blanchard and Anthony F. Bogaert, Homosexuality in men and number of older brothers, *American Journal of Psychiatry* 1996, 27-31

arousal when seeing homosexuals having sex. Homosexuality may well be a direct threat to their hidden identity.⁷³ Accordingly, it can feel threatening when a homosexual would like to have sex with you. Thus, most anti-homosexual laws are against practicing and showing it. Moreover, the principle of second-born boys that help their families reproduce is institutionalized in the Tibetan monastery tradition.⁷⁴ In American Catholic families with five or more children a son is more likely to become a priest than in other families.⁷⁵ Indeed, becoming a nun, a monk or a priest is more than compensated for by the effect of their help on the fertility of group members.⁷⁶ No research results are available concerning homosexuals, but a similar effect, strong enough to make homosexuality evolutionary highly adaptive, does not seem unlikely. If so, then homosexuals would almost be the natural candidates for becoming nuns or monks because their psychology fits the job. In fact, in Japanese Buddhist monasteries homosexuality was not considered wrong, far from it: it was advocated (Leupp 1995, 31).⁷⁷

Sex drive

The 'clearest instance of the fallacy', according to Blackburn, is the belief that we have a 'ruthless, burning desire to perpetuate our genes' where so many people 'obviously' do not.⁷⁸ 'In fact, concern about our genes is incredibly faint: few of us in the First World can be persuaded to give up exuding even a little of our five tons of hydrocarbons per annum by the thought that our grandchildren's grandchildren will have a harder time if we don't.' This is a gross oversimplification of sociobiological principles. Blackburn is intermingling ultimate and proximate explanations. It is a biological fact that genes only spread if their carrier (the organism) manages to do so. All of our ancestors must have had an urge to spread their genes at the right moment. A ruthless, burning desire would be counterproductive. Women only need to

⁷³ Henry E. Adams, Lester W. Wright and Bethany A. Lohr, Is homophobia associated with homosexual arousal?, *Journal of Abnormal Psychology* 1996, 440-445; Trivers (note 19), 106-111

⁷⁴ John H. Crook and Stamati Crook, Tibetan polyandry: problems of adaptation and fitness, in: L. Betzig, M. Borgerhoff-Milder and P. Turke (eds), *Human Reproductive Behaviour*, Cambridge: Cambridge University Press 1988, 97-114

⁷⁵ Bobbi S. Low, *Why Sex matters: a Darwinian Look at human Behaviour*. Princeton: Princeton University Press 2000

⁷⁶ Eli Berman, Laurence R. Iannaccone, Guiseppe Ragusa, From empty Pews to empty Cradles, <econ.ucsd.edu/~elib/pews.pdf> 2007

⁷⁷ Gary Leupp, *Male Colors: The Construction of Homosexuality in Tokugawa Japan*, 1995

⁷⁸ Blackburn (note 1), 150

mate once every two years and still be extremely successful at reproducing. If men were to attempt to have intercourse with every woman they laid eyes on, they would soon be killed by these women's male partners. Thus, the genes of men driven by an uninhibited 'ruthless, burning desire' would not be successful. Probably, it is men that invest in their partner who will have more offspring and who will be much more successful in spreading their genes.⁷⁹ On a proximate psychological level this will be expressed in a desire for men to care for their baby.⁸⁰ And this may very well lead to the value that males have to take part in raising their children, which in turn could underlie laws that prohibit polygamy. Although on a proximate level monogamy will be justified by God's will or the stability of society, ultimately its justification lies in the biological fact that children with less parental care are less likely to survive. At least in a large society, monogamy benefits the spreading of the genes of males and females. People probably justify their choices more comfortably on proximate grounds, because justification on an ultimate level requires much more abstract reasoning. Most people being unable to cope with more than four levels of mental state reflexivity,⁸¹ they probably find it equally strenuous to think on more ultimate levels of justification.

Nevertheless, it is obvious that men more than women think a lot about sex.⁸² They have a desire for sex (and yes, quite possibly a burning one) *at the right moment*. The sex drive is one of the strongest biological drives people experience. There are precious few right moments. If a beautiful (that is healthy) woman invites a single man to have sex with her, no strings attached, such a man must 'of course be crazy' to reject the offer. In fact many fantasies, works of literature and lyrics take their cue from this assumption. Consider, for example, 'Bad Touch' by The Bloodhound Gang: 'You and me baby ain't nothing but mammal, so let's do it like they do it on Discovery Channel'. Yet, our culture seems to favor a controlled urge: procreate at the right moment with the right partner under the right circumstances. Until recently, in some parts the United States adultery was sufficient justification for

⁷⁹ Jeremy M. DeSilva, A shift toward birthing relatively large infants early in human evolution, *PNAS* 2011, 1022-1027; Key (note 39)

⁸⁰ Lee T. Gettler, Tom W. McDade, Alan B. Feranil and Chris W. Kuzawa, Longitudinal evidence that fatherhood decreases testosterone in human males, *PNAS* 2011 16194-16199

⁸¹ Robert I.M. Dunbar, On the evolution of alternative reproductive strategies, *Behavioral and Brain Sciences* 1993, 291

⁸² E.g. Trivers (note 19), 95-113

murder.⁸³ Sexual contact with a healthy woman that is married may not be such a good idea if one wants so spread genes.

Probably the easiest way by far to rebel against our urges is to mislead them: have sex but use contraception and do not procreate. Our genes will not spread and no new organisms will evolve. No more happiness (offspring), but no more suffering either. However, quite a few other people are likely to rebel against their drives: they want to have babies. When they do, their genes will prosper and that is why humanity *as a whole* will always strive for new offspring. So, it makes sense to continue to procreate. That at least will ensure that in future there will be people that are as sensible as we are, and should there not be more of them (of us)...?

Infanticide

There are many examples of a seeming contradiction between the psychology of humans and evolutionary drives. Infanticide of newborns, for instance, is a widespread and near-universal phenomenon,⁸⁴ but it seems to contradict the psychological urge to ensure the survival of our offspring. Parents cherish children out of love.⁸⁵ Love here means that parents feel their children are everything they live for, and from an evolutionary viewpoint that is exactly true. Mostly they do not say they ought to love their children, that is, they do not think of this as 'ethical',⁸⁶ because their emotion tells them what is the right thing to do. Nevertheless, this loving emotion is reflected in Article 18 of the Convention on the Rights of the Child, which stipulates that 'the best interests of the child will be [the parents] basic concern'.

Nonetheless, in many societies babies are not considered human before some key event or ritual.⁸⁷ Overcrowding, lack of resources, no male support, and disabilities can be factors that could drive the mother to kill her baby.⁸⁸ On a proximate level a mother will probably panic when she gives birth to a child in a

⁸³ Trivers (note 19), 102

⁸⁴ Martin Daly and Margo Wilson, Abuse and neglect of children in evolutionary perspective, in: R.D. Alexander and D.W. Tinkle (eds), *Natural selection and Social Behaviour*, New York: Chiron Press 1981, 405-416

⁸⁵ Blackburn (note 1), 21

⁸⁶ Blackburn (note 1), 22

⁸⁷ Barrett, Dunbar and Lycett (note 5), 178

⁸⁸ Daly and Wilson (note 84); Monique Borgerhoff Mulder, Commentary on Smith and Smith, *Current Anthropology* 1994, 615-616

hostile environment. On an ultimate level her state of mind anticipates inadequate conditions for spreading her genes. Under extreme conditions, or conditions that she experiences as extreme, a mother's unconscious state of mind can drive her to infanticide.⁸⁹ Of course, infanticide is no longer an option if a newborn child can be left in the care of relatives and in many African societies this is precisely what happens.⁹⁰ By contrast, in Amazonian tribal societies and Eskimo societies where fostering is not feasible because of the harsh environmental conditions infanticide rates are very high.⁹¹ Such a difference could very well lead to diverging ethical standards. In the African societies referred to infanticide will probably be considered wrong, whereas in Amazonian and Eskimo societies no such stigma is likely attach to infanticide. In fact, some Amazonian tribes are known to bury disabled children alive.⁹² In the Western world, where there are plenty of possibilities for children to be given up for adoption or into care, such behavior cannot be justified in any way, but for the Amazonian Indians it is (or was) a matter of life and death to adhere to other values regarding infanticide.

Nature and culture

Far from being consciously aware of it, organisms are ultimately driven by the fact that their genes must spread, or vanish. This principle permeates all actions of all organisms and the outcome depends on the circumstances. For ultra-social animals that humans are, it is favorable to cooperate. Thus laws are justified because they enhance cooperation within the group, so that we will feel happy. According to Hume, virtues cause pleasure because they are 'useful or agreeable to ourselves or others'.⁹³ We will feel happy if we behave well.⁹⁴ Utilitarianism uses happiness as an evaluation criterion. Laws are justified 'in so far they contribute to the public good', that is public happiness.⁹⁵ Authorities must therefore free us from obstacles to

⁸⁹ Sarah B. Hrdy, Fitness trade-offs in the history and evolution of delegated mothering with special references to wet-nursing, abandonment, and infanticide, *Ethology and Sociobiology* 1992, 409-442

⁹⁰ Renee Pennington and Henry Harpending, *The Structure of an African Pastoralist Community*, Oxford: Oxford University Press 1993

⁹¹ Hrdy (note 89); Barret, Dunbar and Lycett (note 5), 178; David Riches, 'The Netsilik Eskimo: A Special Case of Selective Female Infanticide', *Ethnology* 1974, p. 351-361

⁹² James Hastings, *Encyclopedia of Religion and Ethics*, vol. 1, NY: Scribner's Sons. 1955, vol. 1(6)

⁹³ David Hume, *An Enquiry Concerning the Principles of Morals*, 1751, IX,1

⁹⁴ Hume (note 41), III,iii,6; Blackburn (note 1), 33

⁹⁵ Blackburn (note 1), 26

happiness, such as 'want, ignorance, pain, disease, fear'.⁹⁶ Utilitarianism thus can be considered a proximate translation of the ultimate drive to spread our genes. Ultimately, it is not about maximizing happiness or maximizing profit, but from a proximate perspective it makes some sense. As Hardin demonstrated in his influential article *The Tragedy of the Commons*, it would never pay for an individual to reduce the grazing of his herd in order to save the public land from overgrazing.⁹⁷ He would feel very unhappy if the herds of his fellow villagers would go on grazing. Not because the individual is concerned about the beautiful land, but because he is concerned about his future perspectives. So arrangements are called for to overcome the problem, because only if the villagers cooperate they can survive.

Blackburn's conclusion that predicting that human traits, let alone human values and norms, are an expression of the drive to reproduce our genetic material is 'deeply unpromising' is too easy.⁹⁸ Culture matters, of course, it is part of the conditions we live in, but to acknowledge the basic biological drives in humans is necessary to understand what they want and what they think they are obliged to do. If the man that meets the beautiful woman, is not single but married, he may still 'be crazy' to reject the offer if no one will know. However, if there is a slight chance that his adultery will be detected, and if the group believes adultery is not a good strategy, the man may reconsider. He is likely to be condemned for not rejecting the beautiful woman's offer. He will lose the admiration of his fellow group members, of his wife, of his children. He may even be murdered. As a result his chances of a larger offspring will diminish considerably. If the beliefs, the culture, the religion of the group have evolved in such a way that it is forbidden to commit adultery, it would be better to respect that prohibition. This is probably why there is no correlation between high social status and mating opportunities for men aged 40 years or older.⁹⁹ Although they might be appealing mates, the consequences of adultery for them and their offspring may be severe.

Does this contradict biological foundations of ethics? I think not. Culture is the result of what group members learn from each other in order to deal with changing conditions. It is the product of biological drives and the circumstances where people

⁹⁶ Blackburn (note 1), 27

⁹⁷ Garrett Hardin, *The tragedy of the commons*, *Science* 1968, 1243-1248

⁹⁸ Blackburn (note 1), 150

⁹⁹ Daniel Pérusse, Cultural and reproductive success in industrial societies, *Behavioral and Brain Sciences* 1993, 267-322

live in and consequently becomes part of the new created environment. Like the physical organism it is generated by genes to protect and nourish themselves. Imitation and other learning processes are features that evolved because they will enhance the spreading of genes that are linked to the genes that make learning possible. Researchers have observed how chimpanzees used the technique that was shown to them. Although there were two techniques, poking and lifting, to retrieve fruit from a box the chimpanzees stuck to the method they had copied. This resulted in two linear transmission chains, two simple cultures. A comparative study with children generated the same result.¹⁰⁰ Frans de Waal stresses the importance of imitation by stating that without demonstrations neither chimpanzees nor young children were able to retrieve any food from the box.¹⁰¹ Without imitation, no food. Without culture, no prosperity.

The system of values, of rules, is part of a culture. Both are the result of biological mechanisms that interact with the environment. As Malik puts it: 'Culture is not a mere encrustation upon human nature, like dirt on a soiled shirt. It is an integral part of it because human nature can only be expressed through human culture.'¹⁰² That is why so many characteristics are common to all cultures.¹⁰³ Burial rituals, sex role differentiation, incest taboos and food rituals are found everywhere because they reflect biological urges. In fact, as Lance Workman and Will Reader (2008, p. 403) observe, human cultures are strikingly similar 'when viewed from a suitably abstract level'.¹⁰⁴ Natural selection is a statistical process. The physical bodies of humans practically have not changed for over hundreds of thousands of years,¹⁰⁵ whereas the environment wherein they lived varied enormously. By evolving an ability to generate culture and sustain it, humans could rapidly adapt to new circumstances.¹⁰⁶ Although one could emphasise the biological basis of specific cultural practices or focus on

¹⁰⁰ Victoria Horner, Andrew Whiten, Emma Flynn and Frans B.M. de Waal, Faithful Replication of Foraging Techniques along Cultural Transmission Chains of Chimpanzees and Children, *PNAS* 2006, pp. 13878-83

¹⁰¹ Frans B.M. De Waal, *The Age of Empathy*, New York: Harmony Books 2009, 57

¹⁰² Kenan Malik, *Man, Beast and Zombie: What Science Can and Cannot Tell Us about Human Nature*, London: Weidenfeld and Nicolson 2000

¹⁰³ Donal E. Brown, *Human Universals*, New York: McGraw-Hill 1991

¹⁰⁴ Lance Workman and Will Reader, *Evolutionary Psychology*, Cambridge: Cambridge University Press 2008, 403

¹⁰⁵ Workman and Reader (note 104), 406

¹⁰⁶ Richard Boyd and Peter Richerson, *Culture and the Evolutionary Process*, Chicago: University of Chicago Press 1985

imitation of elements of culture, this is merely a matter of emphasis.¹⁰⁷ The fact remains that certain drives and principles benefit evolutionary fitness and therefore they (and their underlying genes) spread over the population.¹⁰⁸ As a result they have become the driving forces of culture. Consequently, culture is shaped in accordance with the biological and psychological image of man. Although Blackburn will agree that, for example, pottery and incest taboos have positive effects on fitness, he fails to see that cultural practices like infanticide or founding monasteries may enhance fitness as well, be it in a more complicated way. Because of this Blackburn (1998, 150) is still stuck in the conventional nature-nurture dichotomy.¹⁰⁹ But there is no such dichotomy: it is false.¹¹⁰ Without nurture a gene will never have the opportunity to grow. In other words, the outcome of the growth process will always be the result of the interaction of nature and nurture. I agree with Blackburn that there will be endless new cases, because of changing circumstances, but from this it does not follow that there is not a single driving force behind every pattern.¹¹¹ The biological process of fractal growth in biological structures like oaks, generated by genetic codes, is one of phenotypic plasticity, the ability to vary according to circumstances.¹¹² In a way culture, the result of our capability of imitation and learning combined with our urge to spread genes, does not differ much from the large variety of tree branches. It is a means we acquired through evolution that enables us to cope with changing circumstances, that is within a generation.¹¹³ Genes cannot change that fast, so humans would not have been so successful in populating the earth without the ability to create culture. This implies that our physical blueprint probably is much the same as it was 30,000 years ago. As Eaton et al. put it, we are 'stone agers in the fast lane',¹¹⁴ but if we are, then rather like stone agers that created an environment that fits them.¹¹⁵ As a consequence, cultural expressions like

¹⁰⁷ Workman and Reader (note 104); John Tooby and Leda Cosmides, On the universality of human nature and the uniqueness of the individual: The role of genetics and adaptation, *Journal of Personality* 1990, 17-67; Charles J. Lumsden and Edward O. Wilson, *Genes, Mind, and Culture: The Coevolutionary Process*, Cambridge: Harvard University Press 1981; Peter J. Richerson and Richard Boyd, *Not by genes alone*, Chicago: University of Chicago Press 2005

¹⁰⁸ Barrett, Dunbar and Lycett (note 5), 239

¹⁰⁹ Blackburn (note 1), 150

¹¹⁰ Barrett, Dunbar and Lycett (note 5), 2

¹¹¹ Blackburn (note 1), 153

¹¹² Gommer (note 12), 11; Barrett, Dunbar and Lycett (note 5), 2

¹¹³ Barrett, Dunbar and Lycett (note 5), 375-379

¹¹⁴ S. Boyd Eaton, Melvin Konner and Marjorie Shostak, Stone agers in the fast lane, *American Journal of Medicine* 1988, 739-749

¹¹⁵ Malik (note 102)

architecture, instruments, art, books, and so on, take on lives of their own and become an integrated part of our environment.¹¹⁶ Even so, culture remains our creation and it was and is driven by our urge to spread our genes.

The fact that replication is the most fundamental property of all forms of life logically means that every living organism will contribute to the replication of its genes in some way. In other words, every gene that has been around for, say, one million years has been successful in driving its bearer (Dawkins speaks of a ‘vehicle’¹¹⁷) to reproduction or at least survival. The ‘grand unifying theory’ Blackburn deems impossible¹¹⁸ probably can be found by studying biological drives. All of our urges, desires, wishes, values and duties can *ultimately* be connected to that one genetic property of replication. This does not alter people for the ‘worse’, as Blackburn fears,¹¹⁹ because the worse would mean that people’s actions would fundamentally be driven by the notion that treachery would in the long run enable their genes to spread faster. This, as I have argued, is incorrect. Human genes will spread fastest if people cooperate. Sociobiology, if interpreted accurately, need not be cynical at all. It is not because we can fight our heartless nature that we learn to have a heart, but because evolution has endowed us with feelings of sympathy for our fellow group members. What we feel as heartwarming is exactly the kind of behavior that will enhance group stability and cooperation, which in turn and at the same time will enhance the spreading of our genes. Self-love will get us nowhere, our love for our children, for our family, for our fellow group members will spread our genes successfully. People will most emphatically not alter for the worse.

Enhancing cooperation

From the perspective of evolutionary psychology it is clear that humans are driven to cooperation by the physical force of replication. We now can look for means that enhance cooperation. Spreading our genes is not generally considered a worthy cause that motivates us to cooperate. People do not think on that ultimate level. They think it is heartless, banal, coarse or depressing to think of sex as the goal of their lives. In addition, genes cannot be seen to spread and the best strategies are too

¹¹⁶ Richerson and Boyd (note 106)

¹¹⁷ Richard Dawkins, *The Selfish Gene*, Oxford: Oxford University Press 2006 (first published 1976)

¹¹⁸ Blackburn (note 1), 153

¹¹⁹ Blackburn (note 1), 153

complicated to understand in a split second. But evolution has found a solution. People are psychologically driven by emotions, feelings and values that function as evolutionary calculators. On a proximate level people like wealth, health, food, sex, admiration, respect, freedom, unity, property, in a word all those things that will favor the spreading of their genes on an ultimate level. People 'just' want happiness for themselves and their family. On a proximate level people will strive for cooperation because that will get them what they want and as a result they will find or increase their happiness. Of course, free riding on the efforts of group members remains an appealing strategy. If we let others work for us, we have more resources at our disposal, so that our genes can spread faster. That is, unless the others unmask us as cheaters and punish us. Then the free riding turns into a loss. We have formulated rules to share our earnings in a reciprocal way. Those who do not keep to the rules and take a free ride can be punished in our name by the authorities. Fehr and Gächter have shown that this principle is very strong.¹²⁰ In experiments where people could not punish transgressors, cooperation went down. In experiments where people knew they could be punished, cooperation went up (see also Dunbar 1999).¹²¹ The drive to punish free riders is probably as strong as the drive to cooperate.

With evolution disposing us to trust each other, to cooperate and to punish free riders, how can we enhance cooperation further? We can do that by taking 'binding' measures within the group. We will sing together, work together, perform rituals,¹²² adjust our ideas to group ideas,¹²³ tell stories of virtuous people,¹²⁴ conform to group incentives and group morals, feel guilt and shame if we do not,¹²⁵ live up to group values, not break promises,¹²⁶ discuss and acknowledge the right behavior in gossip,¹²⁷ develop our own group dialect¹²⁸ and/or wear clothes and use signs by

¹²⁰ Ernst Fehr and Simon Gächter, Altruistic Punishment in Humans, *Nature* 2002, 137-140

¹²¹ See also Robin I.M. Dunbar, Culture, honesty and the freerider problem, in: R.I.M. Dunbar, C. Knight and C. Power (eds), *The Evolution of Culture*, Edinburgh: Edinburgh University Press 1999, 194-213.

¹²² Howard Hughes., *Evolution and Human Kinship*, Oxford: Oxford University Press 1988

¹²³ Chris D. Knight, Sex and language as pretend play, in: R.I.M. Dunbar, C. Knight and C. Power (eds), *The Evolution of Culture*, Edinburgh: Edinburgh University Press 1999, 228-247

¹²⁴ Chris D. Knight, *Blood Relations: Menstruation and the Origins of Culture*, New Haven: Yale University Press 1991

¹²⁵ Blackburn (note 1), 200

¹²⁶ Terrence Deacon, *The Symbolic Species*, Harmondsworth: Allen Lane 1997

¹²⁷ Harry F. Todd Jr., Litigious Marginals: Character and Disputing in a Bavarian Village, 86-121, in: L. Nader and H. F. Todd (eds.), *The Disputing Process*, New York: Colombia University Press 1978; Robin I.M. Dunbar, Groups, gossip and the evolution of language, in: A. Schmitt, K. Atzwanger, K.

which we can recognize each other as fellow group members.¹²⁹ This will make our group successful and the group will grow. The group will grow until our brains cannot cope with all those people anymore. According to Dunbar (2001), the maximum number of group members our brain can cope with is about 150.¹³⁰ A group with more group members will normally fall apart into subgroups,¹³¹ unless we make rules that allow us to treat strangers as trustable group members. Using such rules we can organize a complex society whose authorities make sure that everyone abides by the same values.¹³² In large communities, where people do not know each other by name and do not know whether someone is a potential free rider, a binding device has evolved – we call it law. This structuring device enables people to specialize and in this way gain still more from cooperation.¹³³ They can make advanced weapons to defend the group and expand their influence. They can make machines to produce more resources and food. They can develop healthcare so that fewer children will die. And so on. From a genetic perspective, the result is astonishing. Even though humans are relatively large mammals that need huge quantities of resources to spread, they have managed to be the most successful mammal on earth – from the genetic point of view. Since the introduction of law and government the human population has been growing like a colony of bacteria in a petri dish. The numbers speak for themselves. Our species numbers approximately seven billion, by far the highest number of mammals of comparable size on the planet; we are gradually, if haltingly, evolving into a global society. However, do we have the biological capacity to keep track with this new drastic change of our environment?

Expanding the in-group

Grammer and K. Schafer (eds), *New Aspects of Human Ethology*, New York: Plenum Press 1997, 77-90

¹²⁸ Daniel Nettle and Robin I.M. Dunbar, Social markers and the evolution of reciprocal exchange, *Current Anthropology* 1997, 93-98

¹²⁹ Robert Kurzban, John Tooby and Lena Cosmides, Can race be erased?, *Proceedings of the National Academy of Sciences* 2001, 15387-15392; Mozafer Sherif et al., *The Robbers cave experiment. Intergroup conflict and cooperation*, Harper & Row Publishers: Pennsylvania 1988

¹³⁰ Robin I.M. Dunbar, Brains on Two Legs, in: F.B.M. de Waal, *Tree of Origin*, Cambridge: Harvard University Press 2001

¹³¹ Barrett, Dunbar and Lycett (note 5), 246-247

¹³² Grammer (note 14) 2010

¹³³ Peter J. Richerson and Richard Boyd, Darwinian Evolutionary Ethics, in: Clayton, P. and J. Schloss (eds.), *Evolution and Ethics*, Cambridge: W.B. Eerdmans Publishing Company 2004, 50-77; Joseph Henrich, Demography and Cultural Evolution: How Adaptive Cultural Processes Can Produce Maladaptive Losses. The Tasmanian Case, *American Antiquity* 2004, 197-215

Our group has grown from small tribal communities into a more or less global society, thanks to the law that made it possible to trust strangers. Nevertheless, our genes have not changed much from when our ancestors lived as hunter-gatherers, some 10,000 years ago. Hunter-gatherer groups were relatively small, but the agricultural revolution made possible large societies that were necessary for defensive purposes and for raising an army.¹³⁴ We have retained most of the genes of our ancestors that lived in small groups all these thousands of years ago and so our emotions will tell us to be fearful of strangers, of people that are not like us.¹³⁵ People that do not show our distinctive group marks will be treated as out-groupers.¹³⁶ People that have another skin color, another dialect or language, other rituals, other beliefs, other values do not look like group members. We will consider them out-groupers and out-groupers do not deserve to be treated as group members.¹³⁷ They are a potential threat to group stability. Out-groupers will take our jobs, they will steal our precious property, they will parasitize on our wealth, they will rape our women, they will burn our cities. The great philosopher Aristotle, who set such great store by high values and was admired for adhering to them at all costs, considered women, slaves, non-citizens and barbarians out-groupers.¹³⁸ Even Thomas Jefferson, one of the founding fathers of the United States of America, owned slaves. The individual freedom the Constitution presupposes was never intended to apply to aliens.¹³⁹ To arouse feelings of fear towards strangers is not particularly difficult.¹⁴⁰ It is no coincidence that populists can stir up these sentiments so easily. It is no coincidence that this fear, once awakened, can escalate rather dramatically, as so many wars have evidenced. Killing outsiders even enhances in-group solidarity.¹⁴¹

Is that the force of nature? Does nature drive us to war? Must we stand up to our nature? Many philosophers concluded that we need reason to counteract these destructive instincts. It seems as if man's nature inevitably leads to a war of everyone

¹³⁴ Timothy K. Earle, Political domination and social evolution, in: T. Engold (ed.), *Companion Encyclopedia of Anthropology*, London: Routledge 1994, 940-961; Allan W. Johnson and Timothy K. Earle, *The Evolution of Human Societies*, Stanford: Stanford University Press 1987; Kent V. Flannery, The cultural evolution of civilizations, *Annual Review of Ecology and Systematics* 1972, 339-426

¹³⁵ David Berryby, *Us and Them: Understanding Your Tribal Mind*, New York: Little Brown 2005

¹³⁶ Sherif et al. (note 129)

¹³⁷ Kai A. Konrad and Florian Morath, Evolutionarily Stable In-group Favoritism and Out-group Spite in Intergroup Conflict, *Max Planck Institute for Tax Law and Public Finance*, June 30 2011

¹³⁸ Blackburn (note 1), 213

¹³⁹ John Mackie, *The Third Theory of Law*, 7 *Philosophy and Public Affairs* 1977

¹⁴⁰ Konrad and Morath (note 137)

¹⁴¹ Richard W. Wrangham and Dale Peterson, *Demonic Males: Apes and the Evolution of Human Aggression*, Boston: Houghton Mifflin 1996

against everyone. Hobbes suggested that a sovereign could suppress the destructive nature of individuals; a sovereign would transcend human nature.¹⁴² Hobbes was wrong. Humans are more social than he expected and a sovereign is as susceptible to human urges as any of his subjects. A state also needs ‘checks and balances to prevent one group from predating upon others’.¹⁴³

Kant posited that reason, as some kind of dual force in our mind, can suppress our destructive instinct.¹⁴⁴ Reason will tell us what to do. Coincidentally, reason tells us to be reciprocal. Reason tells us, we have to act as we would wish everyone to act and to treat everyone as equals, as ends in themselves. Kant was wrong in the sense that there is no higher, dual, independent force in our mind. Even our conscious will is driven by unconscious emotions, feelings, memories, morals and deliberations.¹⁴⁵ Our mind is like an orchestra in which every instrument plays its role¹⁴⁶ in the quest to spread underlying genes.

It is therefore no coincidence that the Golden Rule – we should treat others as we would like them to treat us – is found in all ‘ethical’ systems, as Blackburn acknowledges.¹⁴⁷ This rule originally only concerned our kin, as also can be read in Leviticus 19:18: ‘You shall not seek revenge, or cherish anger towards your kinsfolk; you shall love your neighbor as a man like yourself.’ Although ‘everything in the Law and the prophets hangs on’ this,¹⁴⁸ it is biology that has driven us to this wisdom: no cooperation without reciprocity. Even at DNA level genes obey this law. A gene that would replicate freely within DNA would destroy it. That is why there are chemical mechanisms to prevent such behavior.

We can *discover* these natural principles by reasoning. Although it looks as if our reasoning produces these laws, it was nature that produced the principle. The biological translation of the Golden Rule could well be something like this: *Work to spread the genes of your group members, as you work to spread your own, so that eventually your offspring will survive.*

¹⁴² Hobbes (note 6)

¹⁴³ Blackburn (note 1), 23; Gommer (note 12), 110

¹⁴⁴ Kant (note 7)

¹⁴⁵ See, e.g., Ap Dijksterhuis and Loran F. Nordgren, A Theory of Unconscious Thought, Perspectives on *Psychological Science* 2006, 95-109

¹⁴⁶ Roy F. Baumeister, E.J. Masicampo and Kathleen D. Vohs, Do conscious Thoughts Cause Behavior?, *Annual Review of Psychology* 2011

¹⁴⁷ Simon Blackburn, *Ethics: A Very Short Introduction*. Oxford: Oxford University Press 2001, 101

¹⁴⁸ Matthew 22:40

We do not need an undefined faculty that will 'save' us from our destructive animal nature. It is the social animal itself that puts things into order. Nature has predisposed us to cooperate with strangers that become group members. Nature has created humans that are social animals that will cooperate with anyone they can trust.¹⁴⁹ Nature has enabled us to overcome our fear of strangers.¹⁵⁰ Nature has given us the talent to write down basic principles and to communicate how we can adjust to each other's behavior. Nature has created the means for us to adjust quickly to different circumstances: our ability to imitate and learn. Nature has endowed us with the potential to create a culture and law that will unite people all over the world in a global society. In such a global society we can cope with global warming, all-out wars, food shortage and overpopulation *so that* our genes will survive for another million years.

The paradox of relativism in a global society

The principle of expanding the in-group is also the answer to the problem of relativism. What is good for the farmer need not be good for the tourist. A rainy day may be a boon for the farmer but it is the bane of the tourist.¹⁵¹ While rain helps crops grow and will enable the farmer to nourish his offspring, the tourist's offspring may fall ill because of the nasty weather. The very thing that makes the farmer happy displeases the tourist. There is no absolute good. This qualification depends on context, circumstances and social position. For many Hutus in Rwanda it may have felt good to kill Tutsis: they gained more space to spread their genes. For many Americans, English and Dutch it may have felt good to exploit slaves. For Serbs it may have felt good to rape Muslim women in Bosnia. For the Americans that lynched an African-American it may have felt good to be part of the group. Photos of lynching parties show proud white people.¹⁵²

¹⁴⁹ Sherif et al. (note 129)

¹⁵⁰ Jay J. Van Bavel and William A. Cunningham, Self-categorization with novel mixed-race group moderates automatic social and racial biases, *Personality & Social Psychology Bulletin* 2009, 321-335

¹⁵¹ Blackburn (note 1), 69

¹⁵² Gommer (note 12), 85



Figure 1: 28 September 1919, lynching of William Brown in Douglas County, Nebraska.¹⁵³

To the Nazis it seemed a good idea to create more *Lebensraum* and conquer Europe. It only turned out to be a bad idea because the allied forces in the end proved to be stronger. For men it can be good to compete and let their wives 'produce' as much offspring as possible. Respecting the morals of other cultures can have disastrous effects. In an international context it is hard to justify these cultural perspectives.¹⁵⁴ Morals originally and initially apply only to group members: we need only love our neighbor. Group morals only have value within the group. In this sense, they are relative. However, when the group expands to all people in the world, our former enemy turns out to be just another neighbor.¹⁵⁵ We have to treat our former enemy as our neighbor, that is we must deal with him as if he is our brother. As in-group expands in a global society to all people in the world, eventually we have to treat all people as group members. Group norms must become global norms and must apply to all human beings without distinction. Group values must become universal values.

This tendency of expanding the in-group and universalizing values according to our biological drives has been going on for a few thousands years now. The need for a universal consensus on the balance between individual and society has made

¹⁵³ James H. Allen, Hilton Als and Leon F. Litwack, *Without Sanctuary: Lynching photography in America*, Santa Fe: Twin Palms Publishers 2000 (photo free of copyright)

¹⁵⁴ Michael Themis, Should international legal institutions have the right to pass judgment on another group's sense of justice?, (not published essay Law and Biology course Melbourne University) 2012

¹⁵⁵ See also Matthew 5:44.

people subsequently expanding the in-group.¹⁵⁶ If we treat all people as if they were our brothers and sisters, as valued group members, our values, morals and rules will turn out to be fitting for a global society. The current and ongoing formation of a global society ultimately seems to be a natural process that will enhance the survival chances of our genes.¹⁵⁷ If we continue to treat each other as out-groupers, the external problems will become too big to solve. To treat all people as 'ends in themselves'¹⁵⁸ turns out to be an innate drive as well. However, we need cooperation within large groups to specialize and find the means to cope with world threatening problems,¹⁵⁹ that in turn are threats to the spreading of our genes.

Although morals, values, and laws are relative and depend on the environment in which they function, in a globalizing society the success of our genes depends on global cooperation. As cooperation can be enhanced by group norms, global cooperation can be enhanced by global principles: principles that will ensure the safety and survival of people, that will help us find answers to the global problems we face nowadays, that will help us overcome the tragedy of the commons on a global scale, so that our genes will survive. These principles can be found in human nature by considering all people our brothers, as I will try to show in the finishing part of this article.

The four Biological Principles of Global Ethics

If we overcome dichotomies in contemporary ethics, by applying evolutionary psychology, we can formulate some basic laws that should apply in future *global* ethics. These laws can be derived from our very biological nature. First we need to determine the ultimate common drive that we as human beings cannot escape. As is generally accepted in biology the most fundamental drive of all life is to spread our genes. When we expand our in-group to people around the world, we must respect the urge to reproduce in all people as well as our own biological urge. From this follows that the First Biological Principle of Global Ethics must be:

¹⁵⁶ E.g. Don C. Gibbons, *Crime and Punishment: A Study in Social Attitudes*, *Soc. Forces* 1969, 391/395;

¹⁵⁷ Gommer (note 14), 2011

¹⁵⁸ Kant (note 7)

¹⁵⁹ Peter J. Richerson, Richard.T. Boyd and Joseph Henrich, *Cultural Evolution of Human Cooperation*, in: P. Hammerstein, (ed.), *Genetic and Cultural Evolution of Cooperation*, Cambridge: MIT Press 2003

Human beings have an innate drive to fill the earth with their genes and are fundamentally free to act in accordance with this drive.

As from the evolutionary perspective religion is a means to enhance cooperation, equivalents of this first biological principle can be found in the moral systems of religion. For example 'Be fruitful and increase, fill the earth and subdue it',¹⁶⁰ fertility rituals all over the world and the first signs of human beliefs such as Willendorf's Venus or Kostjenki's Venus. Equivalents can also be found in the Universal Declaration of Human Rights, for example Article 16: 'Men and women of full age, without any limitation due to race, nationality or religion, have the right to marry and to found a family'.¹⁶¹



Figure 2: Kostjenki's Venus¹⁶²

However, unlimited freedom to procreate will lead to catastrophe. Humans have come to conquer the world because they were able to reciprocate. Humans are by nature social animals and thus their freedom is inherently limited. They have to cooperate in order to be successful. Knowing ourselves, we are aware that we need to know our limits. The Second Biological principle of Global Ethics must therefore be:

Human beings are innately predisposed to cooperate (within groups) and have the fundamental duty to act reciprocally.

¹⁶⁰ Genesis 1:28

¹⁶¹ See also Articles 1, 3 and 13 UDHR.

¹⁶² Russia, 24,000 B.C. (photo Hendrik Gommer)

Equivalents of this second biological principle can also be found in the social and moral systems of religions, for example 'Love your neighbor as yourself',¹⁶³ 'Do for one who may do for you, that you may cause him thus to do' in the ancient (1,800 BC) Egyptian Tale of the Eloquent Peasant¹⁶⁴ and 'This is the sum of duty: do not do to others what would cause pain if done to you' in the Hindu Mahabharata (5:1517). Confucius stated: 'What then will you return for good? Recompense injury with justice, and return good for good'.¹⁶⁵ Other equivalents can be found in the Universal Declaration of Human Rights: 'Everyone, without any discrimination, has the right to equal pay for equal work' (Article 23). In addition, the biological principle of reciprocity can be recognized in all forms of contract law, if not in all law.

The third principle can also be derived from nature. We can abide by the first two principles and suffer great losses notwithstanding, because we are predisposed to mistrust strangers. Strangers can be out-groupers that may pose a threat to our very lives. Our brains evolved at a time when living in groups of about 150 members offered a major evolutionary advantage. Now that we have succeeded in occupying the entire planet, we must prolong this evolutionary success by treating former enemies as group members. The primeval human ability to include and integrate strangers in our in-groups can be applied to expand the in-group. Expanding the in-group is necessary to ensure that people will not harm people that look different, as in doing so we would eventually harm ourselves. The Third Biological Principle of Global Ethics can be formulated as follows:

All human beings without distinction belong to the same group and must be treated accordingly.

Again equivalents can be found in religion, such as in the Christian parable of the Good Samaritan: "Which of these three do you think was neighbor to the man who fell into the hand who fell into the hands of the robbers?" He answered, "The one

¹⁶³ Matthew 22:39

¹⁶⁴ Richard B. Parkinson *The Tale of Sinuhe and other ancient Egyptian poems, 1940-1640 BC*, Oxford: Oxford University Press 1999, 109-110

¹⁶⁵ William E. Griffis, *The Religions of Japan*, Teddington: The Echo Library 2006, 66

who showed him kindness.” Jesus said, “Go and do as he did”.¹⁶⁶ Although this parable has no true religious equivalents, Mohammed teaches thus: ‘It may be that God will ordain love between you and those whom you hold as enemies.’¹⁶⁷ It is probably Buddhism that takes this tenet furthest, because it expands the in-group to all organisms that can feel anything: ‘I should be like the sun, shining universally on all without seeking thanks or reward, able to take care of all sentient beings even if they are bad, never giving up on my vows on this account, not abandoning all sentient beings because one sentient being is evil’.¹⁶⁸ The Universal Declaration of Human Rights voices the third biological principle in Article 2:

‘Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status. Furthermore, no distinction shall be made on the basis of the political, jurisdictional or international status of the country or territory to which a person belongs, whether it be independent, trust, non-self-governing or under any other limitation of sovereignty.’

What is still missing is an essential prescription that is necessary to preserve the existence of our genes in a globalized world. If we cooperate and work together without distinction the tragedy of the commons predicts that we will end up with exhausted resources. This will have catastrophic consequences for us and our offspring. People can only spread their genes if there are enough nutrients. Obviously, in a world of plenty unbridled growth is an effective way to spread our genes, but in a world of globalization and depletion of natural resources a rapid expansion of the in-group to include in some sense all of our resources is indispensable if we want to reach a new equilibrium. Global principles will have to steer growth.¹⁶⁹ That is why a Fourth Biological principle of Global Ethics must be introduced:

¹⁶⁶ Luke 10: 36-37

¹⁶⁷ Qur'an 60.7

¹⁶⁸ Garland Sutra 23

¹⁶⁹ Hendrik Gommer and Penelope Swales, Global aspects of the Aboriginal law system. A biological perspective, *Journal of Politics and Law*, March 2012

All human beings are dependent on sufficient resources and must restrict their needs in a way that will not exhaust these resources.

Although this rule has only gained prominence quite recently, early equivalents can be found in religions. In Christianity, stewardship is an ethic that embodies responsible management of resources.¹⁷⁰ It is derived from texts like Genesis 1:29: 'I give you all plants that bear seed: they shall be yours *for food*.' The Aboriginal moral system is more explicit on stewardship. Put simply, significant species and places, natural phenomena and spirit ancestors were also included in the moral system and were therefore considered to be one's self, brother, sister, mother, grandmother, etc..¹⁷¹ The Universal Declaration of Human Rights does not reflect this important biological principle. Many human rights are recognized, but the Declaration falls short in terms of protecting our resources for future needs. It is essential that this deficiency be remedied in a global society, because our children and grandchildren also have the right to use resources that are necessary for procreation.

Conclusion

Although Blackburn believes there cannot be a grand unifying theory or a single driving force that underlies ethics, this article suggests that the spreading of our genes may well be the key. Biological facts can be transformed into normative thinking by using evolutionary psychological theories and facts of cooperation. As cooperation is the means by which humans have successfully spread their genes, ethics in some sense can be regarded as a biological force and even as a physical force. By acknowledging this, dichotomies in contemporary ethics can be overcome, allowing four biological principles of global ethics to be formulated on the basis of factual biological mechanisms.

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¹⁷⁰ Charles Bugg, Stewardship in: *Holman Bible Dictionary*, Holman: Tennessee 1991, 1303-1304

¹⁷¹ John Bradley and Yanyuwa Families, *Barni-Wardimantha Awara Yanyuwa Sea Country Plan*, Mabunji Aboriginal Resource Association 2007, 22-25